

What is Claimed:

Sub A/ 1. A method for logging updates to a plurality of data records into discrete pages in non-volatile storage, wherein a page partially full of data is known as a partial page, said method comprising the steps of:

2 establishing identical partial pages I and I+1 at the earliest opportunity,
3 in response to a data segment D larger than the remaining space of a most recent
4 updated partial page I, partitioning D into a first segment D1 sufficient to fill the remaining
5 space of page I and a second data segment D2,

6 filling page I with a first write operation of its present contents concatenated with D1,
7 and

8 creating identical partial pages I+1 and I+2 with a single, second write operation of
9 D2 to both pages, whereby pages I+1 and I+2 become the new pages I and I+1 for the next
10 logging operation.

11 2. The method of claim 1 further comprising the step of:

12 in response to successive data segments D, the first of which is smaller than the
13 remaining space of the most recently updated partial page I, writing page I+1 to the present
14 contents of page I concatenated with D, and thereafter alternating this procedure between
15 pages I and I+1 until a data segment X fills the remaining space of the page containing the
16 most recent update, and at that point writing page I to the value of the most recent update
17 concatenated with the new segment X in a first write operation and writing any remaining part
18 of segment X into both pages I+1 and I+2 in a second write operation..

1 3. The method of claim 1 comprising the step of:

2 in response to successive data segments D, the first of which is smaller than the
3 remaining space of the most recently updated partial page I, writing page I+1 to the present
4 contents of page I concatenated with D, and thereafter continuing this procedure into
5 successive pages I+2, I+3, etc. until a data segment X fills the remaining space of the page
6 containing the most recent update, and at that point writing page I to the value of the most
7 recent update concatenated with the new segment X in a first write operation and writing any
8 remaining part of segment X into both pages I+1 and I+2 in a second write operation.

9 4. Apparatus for logging updates to a plurality of data records into discrete pages in non-
10 volatile storage, wherein a page partially full of data is known as a partial page, comprising:

means for establishing identical partial pages I and I+1 at the earliest opportunity,

means responsive to a data segment D larger than the remaining space of a most recent
updated partial page I for partitioning D into a first segment D1 sufficient to fill the remaining
space of page I and a second data segment D2,

7 means for filling page I with a first write operation to its present contents concatenated
8 with D1, and

9 means for updating with a second write operation both pages I+1 and I+2 to D2,
10 whereby pages I+1 and I+2 become the new pages I and I+1 for the next logging operation.

1 5. The apparatus of claim 4 further comprising

2 means responsive to successive data segments D, the first of which is smaller than the
3 remaining space of the most recently updated partial page I for writing page I+1 to the present

4 contents of page I concatenated with D, and means for thereafter alternating this procedure
5 between pages I and I+1 until a data segment X fills the remaining space of the page
6 containing the most recent update, and means for writing page I to the contents of the page
7 containing the most recent update concatenated with the last received data segment X.

1 6. The apparatus of claim 4 further comprising:

2 means responsive to successive data segments D, the first of which is smaller than the
3 remaining space of the most recently updated partial page I for writing page I+1 to the present
4 contents of page I concatenated with D, and means for thereafter continuing this procedure
5 into successive pages I+2, I+3, etc. until a data segment X fills the remaining space of the
6 page containing the most recent update, and means for writing page I to the contents of the
7 page containing the most recent update concatenated with the last received data segment X.

8 7. A storage medium for storing computer program instructions that when loaded into a
9 computer performs the steps of claim 1 or claim 2 or claim 3.

10 8. A carrier wave containing computer program instructions that when loaded into a
11 computer performs the steps of claim 1 or claim 2 or claim 3.